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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,684	03/15/2004	Wen Tong	14644	8649

293 7590 02/21/2007

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EXAMINER	
GONZALEZ, AMANCIO	
ART UNIT	PAPER NUMBER
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/799,684	TONG ET AL.	
	Examiner	Art Unit	
	Amancio Gonzalez	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Priority claim to non-provisional application 60/454, 351 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-4, 13, 15-19, 27-29, and 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolgiano et al. (US Pat 5859879), hereafter "Bolgiano," in view of Ranta et al. (US Pat 6782255), hereafter "Ranta."

Consider claims 1, 18, 28, and 37, Bolgiano discloses multiplexing a communication signal with a **another** communication signal according to a multiplexing technique **(here the first multiplexing technique TDMA is used to multiplex a first signal –reads the physical channel- with a second signal or a plurality of signals -**

see Bolgiano: Abstract; col. 2 lines 40-49; col. 3 lines 38-40; col. 15 lines 19-20). Bolgiano discloses multiplexing the communication signal with a **other** communication signal according to a second multiplexing technique **(here the second multiplexing technique CDMA is used to multiplex a first signal –reads the physical channel- with a third signal –reads the resultant TDMA multiplexed signal- see Bolgiano: Abstract; col. 3 lines 38-55; col. 10 lines 6-25; col. 15 lines 19-25; figs. 7, 10A-11A)**.

Bolgiano discloses using more than one multiplexing techniques to multiplex more than one signals, but does not explicitly refer to the multiplexed signals as "first, second, or third signal." Ranta discloses using more than one multiplexing techniques to multiplex more than one signal and explicitly referring to the multiplexed signals as "first, second, or third signal" **(see Ranta: Abstract; claims 1, 23).**

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Bolgiano and have it refer to the multiplexed signals as "first, second, or third signal," as taught by Ranta, thereby conventionally designating pertinent elements of the system when using multiplexing techniques for the purpose of upgrading data transmission resources in a telecommunications network.

Consider claims 2, 3, 4, and 17, Bolgiano, as modified by Ranta, teaches claim 1 above, and further discloses combination of more than one multiplexing techniques to multiplex more than one signals (see Bolgiano: Abstract; col. 2 lines 40-49; col. 3 lines 38-55; col. 3 lines 38-40; col. 15 lines 19-20; col. 15 lines 19-20; figs. 7, 10A-11A).

Consider claims 13 and 29, Bolgiano, as modified by Ranta, teaches claims 1 and 28 above respectively, and further inherently discloses CDM and TDM multiplexing signals (see Bolgiano: Abstract; col. 2 lines 40-49; col. 3 lines 38-55; col. 3 lines 38-40; col. 15 lines 19-20; col. 15 lines 19-20; figs. 7, 10A-11A).

Consider claims 15 and 33, Bolgiano, as modified by Ranta, teaches claims 1 and 28 above respectively, and further discloses power control (see Bolgiano: col. 8 lines 45-47; col. 9 lines 50-54; col. 17 lines 10-12).

Consider claims 16 and 27, Bolgiano, as modified by Ranta, teaches claims 1 and 18 above respectively, and further discloses a computer for storing information executed by a processor (see Bolgiano: col. 26 lines 2-7).

Consider claims 19 and 38, Bolgiano, as modified by Ranta, teaches claims 18 and 37 above respectively, and further discloses encoding and decoding (see Bolgiano: col. 8 lines 19-20; col. 10 lines 12-15).

Consider claims 34-36, Bolgiano, as modified by Ranta, teaches claims 1 and 28 above respectively, and further inherently discloses a processor for multiplexing, sending, and receiving signals utilizing more than one multiplexing technique (see Bolgiano: Abstract; col. 2 lines 40-49; col. 3 lines 38-55; col. 3 lines 38-40; col. 15 lines 19-20; col. 15 lines 19-20; figs. 7, 10A-11A).

5. Claims 5-8, 14, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolgiano et al. (US Pat 5859879), hereafter "Bolgiano," in view of Ranta et al. (US Pat 6782255), hereafter "Ranta," as applied to claims 1, 29, and 30 above, further in view of Ertel et al. (US Pat 7050480), hereafter "Ertel."

Consider claims 5-8, 30, and 31, Bolgiano, as modified by Ranta, teaches claims 1 and 29 above respectively, but does not particularly refer to puncturing in multiplexing techniques. Ertel discloses puncturing in multiplexing techniques (see Ertel: col. 3 lines 53-56; col. 7 lines 12-35). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Bolgiano and Ranta and have it include puncturing in multiplexing techniques, as taught by Ertel, thereby increasing bandwidth in a telecommunications network.

Consider claim 14, Bolgiano, as modified by Ranta, teaches claim 1 above, but does not mention Walsh code. Ertel discloses Walsh code (see Ertel: col. 3 lines 32-37). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Bolgiano and Ranta, and have it include Walsh code, as taught by Laroia, thereby spreading information on the physical channel.

Consider claim 32, Bolgiano, as modified by Ranta and Ertel, teaches claim 30 above, and Ertel further discloses Walsh code (see Ertel: col. 3 lines 32-37).

6. Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolgiano et al. (US Pat 5859879), hereafter "Bolgiano," in view of Ranta et al. (US Pat

6782255), hereafter "Ranta," as applied to claims 19, and 20 above, further in view of Narvinger et al. (US Pat 6868075), hereafter "Narvinger."

Consider claims 20, 21, and 22, Bolgiano, as modified by Ranta, teaches claim 19 above, but does not mention pilot information related to coherent detection. Narvinger discloses pilot information related to coherent detection (see Narvinger: col. 6 lines 14-16). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Bolgiano and Ranta, and have it include pilot information related to coherent detection, as taught by Laroia, thereby decoding received information spread on the physical channel of a wireless communication network.

Consider claims 23-26, Bolgiano, as modified by Ranta and Narvinger, teaches claim 20 above, and further teaches operation on the reverse link (see Bolgiano: col. 4 lines 52-57; col. 8 lines 55-63; col. 10 lines 42-43; col. 13 lines 19-22).

7. Claims 9-12, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolgiano et al. (US Pat 5859879), hereafter "Bolgiano," in view of Ranta et al. (US Pat 6782255), hereafter "Ranta," as applied to claims 1 and 37 above, further in view of Laroia et al. (US PGPub 20040095880), hereafter "Laroia."

Consider claims 9-12, and 39, Bolgiano, as modified by Ranta, teaches claim 1 above, and further discloses data channels and data rate (see Bolgiano: col. 19 lines 52-54), but does mention pilot channel. Laroia discloses data channels and pilot (see Laroia: pars. 0010, 0011, 0035, 0038). It would have been obvious to a person of

ordinary skill in the art at the time the invention was made to modify the invention of Bolgiano and Ranta, and have it include data channels and pilot, as taught by Laroia, thereby effectively synchronizing signal transmission in a wireless communication network.

8. Claims 40-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolgiano et al. (US Pat 5859879), hereafter "Bolgiano," in view of Laroia et al. (US PGPub 20040095880), hereafter "Laroia."

Consider claim 40, Bolgiano discloses a communication channel structure **(see Bolgiano: col. 5 lines 3-6; col. 12 lines 62-64).** Bolgiano discloses a communication channel multiplexed with **another** communication channel according to a first multiplexing technique (**a TDMA communication channel, TDMA being the first multiplexing technique, is multiplexed with a CDMA communication channel -see Bolgiano: Abstract; col. 3 lines 38-55; col. 10 lines 6-25; col. 15 lines 19-25; figs. 7, 10A-11A).**

Bolgiano discloses a communication channel structure, but does not particularly refer to these channels as a "first, second, or third communication channel," or using puncturing in the multiplexing techniques. Laroia discloses the channels as a "first, second, or third communication channel," and using puncturing in the multiplexing techniques **(see Laroia: pars. 0036, 0049, 0100, 0101).**

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Bolgiano and have it refer to the communication channels as "first, second, or third communication channel," and using puncturing in the multiplexing techniques," as taught by Laroia, thereby conventionally designating pertinent elements of the system when using multiplexing techniques for the purpose of increasing bandwidth in a telecommunications network.

Consider claim 41, Bolgiano, as modified by Laroia, teaches claim 40 above, and further inherently discloses CDM and TDM multiplexing signals (see Bolgiano: Abstract; col. 2 lines 40-49; col. 3 lines 38-55; col. 3 lines 38-40; col. 15 lines 19-20; col. 15 lines 19-20; figs. 7, 10A-11A).

Consider claims 42, 46-49, and 50, Bolgiano, as modified by Laroia, teaches claims 40 and 44 above respectively, and Laroia further discloses puncturing in multiplexing and encoding techniques (see Laroia: pars. 0049, 0100, 0101).

Consider claims 43-45, Bolgiano, as modified by Laroia, teaches claim 41 above, and further teaches operation on the reverse link (see Bolgiano: col. 4 lines 52-57; col. 8 lines 55-63; col. 10 lines 42-43; col. 13 lines 19-22).

Conclusion

9. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Amancio González, whose telephone number is (571) 270-1106. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached at (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Amancio González
AG/ag

February 9, 2007

NICK CORSARO
SUPERVISORY PATENT EXAMINER
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